

**Claims:**

1. Boring head (100) comprising at least one guide element (140) arranged on the periphery thereof and at least one cutting insert (150), arranged on the periphery, where both the guide elements (140) and the cutting insert (150) are supported by cassettes (200, 205) which are guided for radial displacement in grooves (160, 165), characterized in that a single adjustment means (400; 410; 460; 470) is provided for adjusting and aligning the length of projection of both the at least one guide element (140) and the at least one cutting insert (150) beyond the periphery of the boring head housing (110), the adjustment means being adjacent to the cassettes (200; 205), on the sides thereof which are opposite to the at least one guide element (140) and to the at least one cutting insert (150), and having a shape, in the peripheral direction, adapted to the radial distance of the cassettes (200; 205) from the axis of symmetry of the boring head (100) in such a way that the lengths of projection of the guide elements (140) and of the at least one cutting insert (150) are adjusted and aligned simultaneously as the adjustment means (400; 410; 460; 470) is mounted on the boring head (100).
2. The boring head as defined in Claim 1, characterized in that the adjustment means (400; 410; 460; 470) can be mounted on the face of the boring head (100).
3. The boring head as defined in Claim 1 or Claim 2, characterized in that the adjustment means is arranged centrally, substantially concentrically, to the axis of the boring head.
4. The boring head as defined in Claim 1 or Claim 2, characterized in that the adjustment means is arranged eccentrically to the axis of the boring head.

5. The boring head as defined in any of Claims 1 to 4, characterized in that the surface defining the outer periphery of the adjustment means has a desired, including a non-symmetrical, shape.
6. The boring head as defined in any of Claims 1 to 5, characterized in that the adjustment means is cylindrical in shape, in the axial direction.
7. The boring head as defined in any of Claims 1 to 6, characterized in that the adjustment means has a disk-like shape.
8. The boring head as defined in Claim 7, characterized in that the adjustment means has the shape of a circular disk (460, 470).
9. The boring head as defined in Claims 1 to 6, characterized in that the adjustment means has an annular shape.
10. The boring head as defined in Claim 9, characterized in that the adjustment means has the shape of a circular ring (400, 410).
11. The boring head as defined in Claims 1 to 6, characterized in that the adjustment means has a conical shape in axial direction.
12. The boring head as defined in Claim 11, characterized in that the adjustment means can be displaced in axial direction.
13. The boring head as defined in any of Claims 1 to 12, characterized in that the cassettes (200, 205) can be fixed after adjustment and alignment by detachable mounting elements, preferably by screws (210).
14. The boring head as defined in any of Claims 1 to 13, characterized in that the at least one cassette (205), carrying the at least one cutting insert (150), comprises a chip removal channel (230) which is connected with a chip removal

channel (117) provided in the interior of the boring head (100) in both the non-displaced and the displaced condition of the at least one cassette (205).

15. The boring head as defined in any of Claims 1 to 14, characterized in that the boring head (100) is provided on its periphery with damping strips (300, 330) the radial extension of which, over the periphery of the boring head housing (110) is adapted to the length of projection of the guide elements (140) and the length of projection of the at least one cutting insert (150) beyond the periphery of the boring head housing (110).
16. The boring head as defined in any of Claims 1 to 15, characterized in that the boring head (100) is provided on its end face with a cover covering at least part of the adjustment means (400; 410; 460; 470) and of the cassettes (200, 205).